



POWER PANEL INSULATION TEST



OWNER Example Owner PAGE 1
 PLANT Example Plant AMBIENT TEMP. _____ °F DATE 10/13/2014
 SUBSTATION SWITCHBOARDS HUMIDITY _____ % JOB # SWITCHBOARDS
 POSITION GENERAL ASSET ID _____

MANUFACTURER _____ CATALOG NO. _____ SERIAL NO. _____
 VOLTAGE _____ TYPE _____ AMPACITY _____
 PANEL WITHSTAND RATING _____ MAIN MLO NO. FEEDER BREAKERS _____
 NO. FEEDER DISCONNECTS _____ OTHER _____
 FED FROM _____ TYPE OF LOADS _____
 EQUIPMENT TEMPERATURE _____ °C TEMPERATURE CORRECTION FACTOR TO 20°C, TCF _____ TEST VOLTAGE _____ KVDC

PANEL DESIGNATION: _____

PANEL LOCATION: _____

TEST RESULTS - MEGOHMS								
	RDG.	20°C		RDG.	20°C		RDG.	20°C
A - GRD	_____	_____	A - B	_____	_____	A - N	_____	_____
B - GRD	_____	_____	A - C	_____	_____	B - N	_____	_____
C - GRD	_____	_____	B - C	_____	_____	C - N	_____	_____
N - GRD	_____	_____						

CONNECTED EQUIPMENT _____

MANUFACTURER _____ CATALOG NO. _____ SERIAL NO. _____
 VOLTAGE _____ TYPE _____ AMPACITY _____
 PANEL WITHSTAND RATING _____ MAIN MLO NO. FEEDER BREAKERS _____
 NO. FEEDER DISCONNECTS _____ OTHER _____
 FED FROM _____ TYPE OF LOADS _____
 EQUIPMENT TEMPERATURE _____ °C TEMPERATURE CORRECTION FACTOR TO 20°C, TCF _____ TEST VOLTAGE _____ KVDC

PANEL DESIGNATION: _____

PANEL LOCATION: _____

TEST RESULTS - MEGOHMS								
	RDG.	20°C		RDG.	20°C		RDG.	20°C
A - GRD	_____	_____	A - B	_____	_____	A - N	_____	_____
B - GRD	_____	_____	A - C	_____	_____	B - N	_____	_____
C - GRD	_____	_____	B - C	_____	_____	C - N	_____	_____
N - GRD	_____	_____						

CONNECTED EQUIPMENT _____

COMMENTS: _____
 DEFICIENCIES: _____

TEST EQUIPMENT USED: _____ TESTED BY: Default Administrator



MEDIUM VOLTAGE SWITCHBOARD INSULATION TEST



OWNER Example Owner PAGE 2
 PLANT Example Plant AMBIENT TEMP. _____ °F DATE 10/13/2014
 SUBSTATION SWITCHBOARDS HUMIDITY _____ % JOB # SWITCHBOARDS
 POSITION GENERAL ASSET ID _____

NAMEPLATE DATA

MANUFACTURER _____ SERIAL NO. _____ TYPE _____
 CATALOG NO. _____ DRAWING NO. _____ VOLTAGE CLASS _____
 PHASE AMPACITY _____ A WITHSTAND RATING _____ KA CONDUCTOR CU AL

INSTALLED DEVICES

VACUUM BREAKERS _____ AIR BREAKERS _____ LOADBREAK DISCONNECTS _____ NUMBER OF BAYS _____
 VOLTAGE RELAYS _____ OVERCURRENT RELAYS _____ OTHER PROTECTIVE RELAYS _____ AUXILIARY RELAY _____
 PANEL METERS _____ KWHR METERS _____ VT's _____ CT's _____ CPT's _____
 OTHER _____

DESCRIPTION	INSPECTED	CONDITION	CLEANED/LUBED
OVERALL CLEANLINESS	<input type="checkbox"/>		
INSULATING MEMBERS	<input type="checkbox"/>		
CUBICLES	<input type="checkbox"/>		
GROUND CONNECTIONS	<input type="checkbox"/>		
AUXILIARY DEVICES	<input type="checkbox"/>		

INSULATION TEST VOLTAGE _____ kVDC TEST VOLTAGE MULTIPLIER, K1 _____ K2 = (K1) (TCF)
 EQUIPMENT TEMPERATURE _____ °C TEMPERATURE CORRECTION FACTOR TO 20°C, TCF = _____

INSULATION RESISTANCE TEST RESULTS · MEGOHMS										
BUS SECTION TESTED	RANGE MULT.	K2		PHASE						
				A-GND	B-GND	C-GND	N-GND	A - B	A - C	B - C
			RDG.							
			20°C							
			RDG.							
			20°C							
			RDG.							
			20°C							
			RDG.							
			20°C							
			RDG.							
			20°C							

ACTUAL READING SHADING INDICATES TEMPERATURE CORRECTED READING TO 20°C

COMMENTS: _____
 DEFICIENCIES: _____

TEST EQUIPMENT USED: _____ TESTED BY: Default Administrator



MEDIUM VOLTAGE SWITCHBOARD HIGH POTENTIAL TEST



OWNER Example Owner PAGE 3
 PLANT Example Plant AMBIENT TEMP. _____ °F DATE 10/13/2014
 SUBSTATION SWITCHBOARDS HUMIDITY _____ % JOB # SWITCHBOARDS
 POSITION GENERAL ASSET ID _____

NAMEPLATE DATA

MANUFACTURER _____ SERIAL NO. _____ TYPE _____
 CATALOG NO. _____ DRAWING NO. _____ VOLTAGE CLASS _____
 PHASE AMPACITY _____ A WITHSTAND RATING _____ KA CONDUCTOR CU AL

INSTALLED DEVICES

VACUUM BREAKERS _____ AIR BREAKERS _____ LOADBREAK DISCONNECTS _____ NUMBER OF BAYS _____
 VOLTAGE RELAYS _____ OVERCURRENT RELAYS _____ OTHER PROTECTIVE RELAYS _____ AUXILIARY RELAYS _____
 PANEL METERS _____ KWHR METERS _____ VT's _____ CT's _____ CPT's _____
 OTHER _____

DESCRIPTION	INSPECTED	CONDITION	CLEANED/LUBED
OVERALL CLEANLINESS	<input type="checkbox"/>		
INSULATING MEMBERS	<input type="checkbox"/>		
CUBICLES	<input type="checkbox"/>		
GROUND CONNECTIONS	<input type="checkbox"/>		
AUXILIARY DEVICES	<input type="checkbox"/>		

INSULATION TEST VOLTAGE _____ KVDC TEST VOLTAGE MULTIPLIER _____
 EQUIPMENT TEMPERATURE _____ °C
 K1 = RANGE MULTIPLIER

HIGHPOTENTIAL TESTS						
BUS SECTION TESTED	K1		LEAKAGE - MICROAMPS			
			A-GND	B-GND	C-GND	N-GND
		RDG.				
		TOTAL LEAKAGE				
		RDG.				
		TOTAL LEAKAGE				
		RDG.				
		TOTAL LEAKAGE				
		RDG.				
		TOTAL LEAKAGE				
		RDG.				
		TOTAL LEAKAGE				

BUS HIGH POTENTIAL TESTS CONDUCTED PHASE TO GROUND, WITH OTHER CONDUCTORS GROUNDED. LEAKAGE RECORDED AFTER TEST VOLTAGE APPLIED FOR ONE MINUTE.

TOTAL LEAKAGE = (K1) (ACTUAL READING)

COMMENTS: _____
 DEFICIENCIES: _____

TEST EQUIPMENT USED: _____ TESTED BY: Default Administrator



SWITCHGEAR INSPECTION



OWNER Example Owner
 PLANT Example Plant
 SUBSTATION SWITCHBOARDS
 POSITION GENERAL

PAGE 4
 AMBIENT TEMP. _____ °F
 DATE 10/13/2014
 HUMIDITY _____ %
 JOB # SWITCHBOARDS
 ASSET ID _____

NAMEPLATE DATA

MANUFACTURER _____ SERIAL NO. _____ TYPE _____
 CATALOG NO. _____ CURRENT RATING _____ AMPERES
 VOLTAGE CLASS _____ VOLTS ADDITIONAL INFORMATION _____

CONDITION	REMARK NUMBER	INSPECTIONS
<input type="checkbox"/> G <input type="checkbox"/> P <input type="checkbox"/> C <input type="checkbox"/> I		EXTERIOR OF EQUIPMENT
<input type="checkbox"/> G <input type="checkbox"/> P <input type="checkbox"/> C <input type="checkbox"/> I		ALL INTERIOR OF CUBICLES
<input type="checkbox"/> G <input type="checkbox"/> P <input type="checkbox"/> C <input type="checkbox"/> I		<input type="checkbox"/> ALL INTERIOR BUS <input type="checkbox"/> CABLE SYSTEMS
<input type="checkbox"/> G <input type="checkbox"/> P <input type="checkbox"/> C <input type="checkbox"/> I		BUS SUPPORT INSULATORS AND SPACING
<input type="checkbox"/> G <input type="checkbox"/> P <input type="checkbox"/> C <input type="checkbox"/> I		<input type="checkbox"/> DOORS <input type="checkbox"/> PANELS <input type="checkbox"/> BRACKETS
<input type="checkbox"/> G <input type="checkbox"/> P <input type="checkbox"/> C <input type="checkbox"/> I		<input type="checkbox"/> DOOR HANDLES <input type="checkbox"/> LOCKING BARS / MECHANISMS
<input type="checkbox"/> G <input type="checkbox"/> P <input type="checkbox"/> C <input type="checkbox"/> I		<input type="checkbox"/> INSTRUMENTS <input type="checkbox"/> RELAY COVERS
<input type="checkbox"/> G <input type="checkbox"/> P <input type="checkbox"/> C <input type="checkbox"/> I		<input type="checkbox"/> BREAKER <input type="checkbox"/> CELL CONTACTS
<input type="checkbox"/> G <input type="checkbox"/> P <input type="checkbox"/> C <input type="checkbox"/> I		<input type="checkbox"/> CONTROL TRANSFORMERS <input type="checkbox"/> METERING TRANSFORMERS <input type="checkbox"/> INSTRUMENTS
<input type="checkbox"/> G <input type="checkbox"/> P <input type="checkbox"/> C <input type="checkbox"/> I		<input type="checkbox"/> GROUNDING
<input type="checkbox"/> G <input type="checkbox"/> P <input type="checkbox"/> C <input type="checkbox"/> I		<input type="checkbox"/> RAILS <input type="checkbox"/> GUIDES <input type="checkbox"/> ROLLERS <input type="checkbox"/> SHUTTER MECHANISMS
<input type="checkbox"/> G <input type="checkbox"/> P <input type="checkbox"/> C <input type="checkbox"/> I		<input type="checkbox"/> WIRING <input type="checkbox"/> TERMINAL CONNECTIONS
<input type="checkbox"/> G <input type="checkbox"/> P <input type="checkbox"/> C <input type="checkbox"/> I		<input type="checkbox"/> GRID ASSEMBLIES <input type="checkbox"/> SPACE HEATERS
<input type="checkbox"/> G <input type="checkbox"/> P <input type="checkbox"/> C <input type="checkbox"/> I		<input type="checkbox"/> CELL INTERLOCKS <input type="checkbox"/> AUXILIARY CONTACT ASSEMBLIES
<input type="checkbox"/> G <input type="checkbox"/> P <input type="checkbox"/> C <input type="checkbox"/> I		<input type="checkbox"/> FILTERS IN PLACE <input type="checkbox"/> VENTS ARE CLEAR
<input type="checkbox"/> G <input type="checkbox"/> P <input type="checkbox"/> C <input type="checkbox"/> I		
<input type="checkbox"/> G <input type="checkbox"/> P <input type="checkbox"/> C <input type="checkbox"/> I		
CONDITION	REMARK NUMBER	SYSTEM MAINTENANCE AND CHECKS
<input type="checkbox"/> G <input type="checkbox"/> P <input type="checkbox"/> C <input type="checkbox"/> I		TORQUE-TEST BOLTED BUS (READILY ACCESSIBLE CONNECTIONS ONLY)
<input type="checkbox"/> G <input type="checkbox"/> P <input type="checkbox"/> C <input type="checkbox"/> I		LUBRICATE DRAW-OUT ASSEMBLY PARTS
<input type="checkbox"/> G <input type="checkbox"/> P <input type="checkbox"/> C <input type="checkbox"/> I		VACUUM AND CLEAN INTERIOR OF CUBICLES
<input type="checkbox"/> G <input type="checkbox"/> P <input type="checkbox"/> C <input type="checkbox"/> I		OPERATE CONTROLS AND CHECK CORRECTNESS OF FUNCTIONS
<input type="checkbox"/> G <input type="checkbox"/> P <input type="checkbox"/> C <input type="checkbox"/> I		CHECK AUTOMATIC TRANSFER RELAY OPERATION (IF USED)
<input type="checkbox"/> G <input type="checkbox"/> P <input type="checkbox"/> C <input type="checkbox"/> I		<input type="checkbox"/> ANNUNCIATOR <input type="checkbox"/> ALARM / TARGET OPERATION
<input type="checkbox"/> G <input type="checkbox"/> P <input type="checkbox"/> C <input type="checkbox"/> I		
<input type="checkbox"/> G <input type="checkbox"/> P <input type="checkbox"/> C <input type="checkbox"/> I		

- G = ITEMS FOUND IN SATISFACTORY CONDITION
- P = ITEMS FOUND IN POOR CONDITION AND REQUIRING FUTURE CORRECTIVE ACTION
- C = ITEMS REPAIRED OR CORRECTED AND LEFT IN SATISFACTORY CONDITION
- I = ITEMS REQUIRING IMMEDIATE CORRECTIVE ACTIONS

TEST EQUIPMENT USED: _____ TESTED BY: Default Administrator



SWITCHGEAR INSPECTION



INSULATION RESISTANCE

DESCRIBE WHAT WAS TESTED _____

REFERENCE STANDARD: NETA _____ ACCEPTABLE

TEST VOLTAGE: _____ VOLTS DC DURATION: _____ MINUTE(S)	MEASURED RESULT (MEGOHMS)	RECOMMENDED MINIMUM (MEGOHMS)	RESULT ACCEPTABLE (YES / NO)
PHASE - TO - PHASE - AND - GROUND			
PHASE A TO PHASE B, PHASE C AND GROUND			
PHASE B TO PHASE C, PHASE A AND GROUND			
PHASE C TO PHASE A, PHASE B AND GROUND			

OVERPOTENTIAL

DESCRIBE WHAT WAS TESTED _____

REFERENCE STANDARD: NETA _____ ACCEPTABLE

TEST VOLTAGE: _____ VOLTS DC DURATION: _____ MINUTE(S)	MEASURED RESULT (MEGOHMS)	RESULT (PASS / FAIL)	RESULT ACCEPTABLE (YES / NO)
PHASE - TO - PHASE - AND - GROUND			
PHASE A TO PHASE B, PHASE C AND GROUND			
PHASE B TO PHASE C, PHASE A AND GROUND			
PHASE C TO PHASE A, PHASE B AND GROUND			

CONNECTION RESISTANCE

CONNECTION FROM CONNECTION TO	MEASURED RESULT (_____ OHMS)	ACCEPTABLE (YES / NO)	CONNECTION FROM CONNECTION TO	MEASURED RESULT (_____ OHMS)	ACCEPTABLE (YES / NO)
PHASE <input type="checkbox"/> A <input type="checkbox"/> _____			PHASE <input type="checkbox"/> A <input type="checkbox"/> _____		
PHASE <input type="checkbox"/> B <input type="checkbox"/> _____			PHASE <input type="checkbox"/> B <input type="checkbox"/> _____		
PHASE <input type="checkbox"/> C <input type="checkbox"/> _____			PHASE <input type="checkbox"/> C <input type="checkbox"/> _____		
CONNECTION FROM CONNECTION TO			CONNECTION FROM CONNECTION TO		
PHASE <input type="checkbox"/> A <input type="checkbox"/> _____			PHASE <input type="checkbox"/> A <input type="checkbox"/> _____		
PHASE <input type="checkbox"/> B <input type="checkbox"/> _____			PHASE <input type="checkbox"/> B <input type="checkbox"/> _____		
PHASE <input type="checkbox"/> C <input type="checkbox"/> _____			PHASE <input type="checkbox"/> C <input type="checkbox"/> _____		

NETA _____ CONNECTION RESISTANCE REQUIREMENT: COMPARE RESULTS TO RESULTS OF SIMILAR CONNECTIONS.
ARE RESULTS SATISFACTORY YES NO (IF NO, SEE COMMENTS FOR AN EXPLANATION)

COMMENTS: _____
DEFICIENCIES: _____



SWITCHBOARD BUS CONNECTION TEST



OWNER Example Owner
 PLANT Example Plant
 SUBSTATION SWITCHBOARDS
 POSITION GENERAL

PAGE 6
 AMBIENT TEMP. _____ °F
 HUMIDITY _____ %
 DATE 10/13/2014
 JOB # SWITCHBOARDS
 ASSET ID _____

NAMEPLATE DATA

MANUFACTURER _____ SERIAL NO. _____ TYPE _____
 CATALOG NO. _____ DRAWING NO. _____ VOLTAGE CLASS _____
 PHASE AMPACITY _____ A WITHSTAND RATING _____ kA CONDUCTOR CU AL

BUS SECTION TESTED		RESISTANCE IN MICRO-OHMS					BUS SECTION TESTED		RESISTANCE IN MICRO-OHMS				
FROM	TO	A	B	C	N	G	FROM	TO	A	B	C	N	G

COMMENTS: _____
 DEFICIENCIES: _____

TEST EQUIPMENT USED: _____ TESTED BY: Default Administrator



LOW VOLTAGE SWITCHBOARD INSULATION TEST



OWNER Example Owner PAGE 7
 PLANT Example Plant AMBIENT TEMP. _____ °F DATE 10/13/2014
 SUBSTATION SWITCHBOARDS HUMIDITY _____ % JOB # SWITCHBOARDS
 POSITION GENERAL ASSET ID _____

NAMEPLATE DATA

MANUFACTURER _____ SERIAL NO. _____ TYPE _____
 CATALOG NO. _____ DRAWING NO. _____ VOLTAGE CLASS _____
 PHASE AMPACITY _____ A WITHSTAND RATING _____ KA CONDUCTOR CU AL

INSTALLED DEVICES

DRAWOUT LVACB _____ BOLT-IN LVACB _____ DRAWOUT MCCB _____ BOLT-IN MCCB _____
 BOLTED PRESSURE SWITCHES _____ FUSED DISCONNECTS _____ PROTECTIVE RELAYS _____ PANEL METERS _____
 KWHR METERS _____ VT's _____ CT's _____ CPT's _____
 OTHER _____

DESCRIPTION	INSPECTED	CONDITION	CLEANED/LUBED
OVERALL CLEANLINESS	<input type="checkbox"/>		
INSULATING MEMBERS	<input type="checkbox"/>		
CUBICLES	<input type="checkbox"/>		
GROUND CONNECTION	<input type="checkbox"/>		
AUXILIARY DEVICES	<input type="checkbox"/>		

TEST VOLTAGE _____ KVDC EQUIPMENT TEMPERATURE _____ °C TEMPERATURE CORRECTION FACTOR TO 20°C, TCF _____

BUS SECTION TESTED		INSULATION RESISTANCE TEST RESULTS - MEGOHMS									
		A-GND	B-GND	C-GND	N-GND	A - B	A - C	B - C	A - N	B - N	C - N
	RDG.										
	20°C										
	RDG.										
	20°C										
	RDG.										
	20°C										
	RDG.										
	20°C										
	RDG.										
	20°C										
	RDG.										
	20°C										
	RDG.										
	20°C										

COMMENTS: _____
 DEFICIENCIES: _____

TEST EQUIPMENT USED: _____ TESTED BY: Default Administrator



MEDIUM VOLTAGE SWITCHBOARD INSULATION TEST



OWNER Example Owner PAGE 8
 PLANT Example Plant AMBIENT TEMP. _____ °F DATE 10/13/2014
 SUBSTATION SWITCHBOARDS HUMIDITY _____ % JOB # SWITCHBOARDS
 POSITION GENERAL ASSET ID _____

NAMEPLATE DATA

MANUFACTURER _____ SERIAL NO. _____ TYPE _____
 CATALOG NO. _____ DRAWING NO. _____ VOLTAGE CLASS _____
 PHASE AMPACITY _____ A WITHSTAND RATING _____ kA CONDUCTOR CU AL

INSTALLED DEVICES

VACUUM BREAKERS _____ AIR BREAKERS _____ LOADBREAK DISCONNECTS _____ NUMBER OF BAYS _____
 VOLTAGE RELAYS _____ OVERCURRENT RELAYS _____ OTHER PROTECTIVE RELAYS _____ AUXILIARY RELAY _____
 PANEL METERS _____ KWHR METERS _____ VT's _____ CT's _____ CPT's _____
 OTHER _____

DESCRIPTION	INSPECTED	CONDITION	CLEANED/LUBED
OVERALL CLEANLINESS	<input type="checkbox"/>		
INSULATING MEMBERS	<input type="checkbox"/>		
CUBICLES	<input type="checkbox"/>		
GROUND CONNECTIONS	<input type="checkbox"/>		
AUXILIARY DEVICES	<input type="checkbox"/>		

INSULATION TEST VOLTAGE _____ kVDC EQUIPMENT TEMPERATURE _____ °C TEMPERATURE CORRECTION FACTOR TO 20°C, TCF = _____

INSULATION RESISTANCE TEST RESULTS · MEGOHMS								
BUS SECTION TESTED		PHASE						
		A-GND	B-GND	C-GND	N-GND	A - B	A - C	B - C
	RDG.							
	20°C							
	RDG.							
	20°C							
	RDG.							
	20°C							
	RDG.							
	20°C							
	RDG.							
	20°C							

ACTUAL READING SHADING INDICATES TEMPERATURE CORRECTED READING TO 20°C

COMMENTS: _____
 DEFICIENCIES: _____

TEST EQUIPMENT USED: _____ TESTED BY: Default Administrator